



SEQUENCE LISTING

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<120> BIOMARKERS AND TARGETS FOR DIAGNOSIS, PROGNOSIS AND
MANAGEMENT OF PROSTATE, BREAST AND BLADDER CANCER

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<160> 88

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<210> 1
<211> 391
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 1
gtccagtcgc tcagaaattt ccttqatgc tttgaagtta tctctttgg atctgcttcc 60
tccttatcgt ctctacatcc caagaacaga gagtgagtct tctttatccc cttatctctg 120
tttttagcac agtatttgat atatagtgta gatactataa atgcttgcta aactttgtca 180
aattccacat tttaaaata aaaatgagaa tgagcttgta gtcaacatgg cgtttggtaag 240
tttggagtct atatatggta gatatacata ttttaaaatc taagtcaac ttttcttttg 300
attatcttga aatgccttat catctccaca tttgctgttag gcagtagttt agtgggtcca 360
ttatatctgc cacactgatt gtcttaaata a 391

<210> 2
<211> 614
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 2
cagtagtggc cccaaatgcc aggctgcact gatattttt ggatataaga caaaggggca 60
ggtaaggaa tgtgaaccat ctccaataat aggttaaggc acatgggtca tgtgtccact 120
ggacaggggg cccttcctg cctggcagca gagggcagaga gagagagaag agagagagac 180
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atctaaaagg cagagccagg tatacaggat ggaacatgaa agcggactag gagcgtgacc 300
actgaagcac agcatcacag ggagacaggc ctctggatac tggccggggg gccctgactg 360
atgtcaaggc cctccacaag agtggaggag ttagtcttcc tctaaactcc cccggggaa 420
aggaggctc cttttcccag tctgctaagt agtgggtgtt tttccttgac actgatgcta 480
ctgctagacc atggtccact ttgcaacagg catctccca gacactggtg ttactgctag 540
accaagccct ctggggcccc tgcggggca taagagaagg ctcacactct tgcgttctgg 600
ccacttcgca ctat 614

<210> 3
<211> 757
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 3
acaacgacac attcaggagt taaatattta tcataaaca ttggattttt ccttaacgct 60
agagattgct acaaatcttc tgaagggtct cgtggcttc aggctaagaag gagatttctc 120
cctgttataa gcagcaagac aaattagcca tttcactctc aaacttcact aatgatcaca 180
ttctttccaa aaggaactct agaagaccaa atgccccgag ttaagaacat caaaactaac 240
catctgaaga aacttccaa gtgttaagact ctgcattaa aacattaccg agagggact 300
caaacagtct tttctccct ttgtcggtt tctttgctcc cagacccaaag gcacttggcg 360
gacagtactt gatacaataa ttaaaaagc accactccct tcccactttg taaataccca 420
gaactctaattt tggaccaccc tgaagcttag gacctaccag ccatacaaat agtaaactct 480
gtccacgatt cactcatctg tgtatTTCT atagatgttt actaggcgtt tggatataaa 540
aaataccccg gccaggcacf gtggctcacf cctgtatcc cagcactttg ggaggtgggt 600
ggatcacctg aggtcgggag ttgcgagacca gcctgaccag catggtgaa ccccatctc 660
tactaaaaac acaaaaaatt agccggcggt ggtggcacat gcctgtatcc ccagctactc 720

aggaggctga ggcggagaat tgcttgaacc cggaagg

757

<210> 4

<211> 673

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Primer

<400> 4

caggacacag agtaagatac ccactgactt cttgtggct acttcctggg tgggtttca 60

atgggcttg ttataacagg actagtcttc tgtaaataca acttggtaaa taggatgaaa 120

cataactttg cgacaattca gtagaaatag gcatacaa ac ctgggcctga tgacactcac 180

ctccccttgg ctataaacat taccctacct gttaaatcg taatccttg ggagagcgct 240

tactgagat ctatgatatg caaagaccaa agaccgaggg gatccctgg tggtagagcaa 300

gcacacaccc gtttattagc tacctgccac cctgctggc atgcaacata cattgtctca 360

aattctaacc accctgcaag gcaagctcc ttgttcttt aaagaagaaa agtagaccag 420

caagattgtt ttgctcaaga ttacacagcc tggatcttgc tcatggcat gtctgactct 480

gatagcaata ccctcaaaga aactgtcaga gaagactcaa taagaagaaa gttgagatac 540

agaaaccaac aggagaaggt aattcagaaa ttcaaacaga gtgggtgtga tgggaagaat 600

tcattaataa gaaggtacct ctgttagaaaa atcttaccag acgtctgga agtgaaggaa 660

acagccaata gtc

673

<210> 5

<211> 358

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Primer

<400> 5

gtcactgcac attaagatgg agcccgaaga gccacactcc gagggggcat cgccaggagga 60

tggggctcaa ggtgcctgg gctgggcacc cctaagtcac ggctctaagg agaaagctct 120

cttcctgccc ggcggagccc tccctcccc ccggatcccc gtgctttccc gagaggggag 180

gaccagagac cggcagatgg ctgcagcgct cctcaactgcc tggtcccaga tgccagtgac 240

tttcgaggat gtggccttgtt acctctcccc ggaggagtgg ggacggctgg accacacgca 300

gcagaacttc tacagggaaat gtcctgcaga agaaaaatgg gctgtcactg ggctttcc 358

<210> 6
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 6
cacagatgtac gcttcctcac tgg

23

<210> 7
<211> 610
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 7
ctggagtaca atgtcagtgt ttacactgtc aaggatgaca aggaaagtgt ccctatctct 60
gataccatca tcccagctgt tcctcctccc actgacctgc gattcaccaa cattggtcca 120
gacaccatgc gtgtcacctg ggctccaccc ccatccattg atttaaccaa cttcctggtg 180
cgttactcac ctgtaaaaaa tgaggaagat gttgcagagt tgtcaatttc tccttcagac 240
aatgcagtgg tcttaacaaa tctcctgcct ggtacagaat atgttagtgag tgtctccagt 300
gtctacgaac aacatgagag cacacctctt agaggaagac agaaaacagg tcttgattcc 360
ccaactggca ttgacttttc tgatattact gccaactctt ttactgtgca ctggattgct 420
cctcgagcca ccatcactgg ctacaggatc cgccatcatc ccgagcactt cagtgggaga 480
cctcgagaag atcgggtgcc ccactctcg aattccatca ccctcaccaa cctcactcca 540
ggcacagagt atgtggtcag catcggtgct cttaatggca gagaggaaag tcccttattg 600
atggccaac

610

<210> 8
<211> 1649
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

Primer

<400> 8
cggcagccag cctattctt ggccgggtcg gtgcgagtgg tcggctggc agagtgcacg 60
ctgcttggcg ccgcaggta tcccggcgtc cactccccggg agcagtatg ttggcaact 120
ctgcggcggg gcctgcgacc cgcgaggcgg gtcggcgct gctagcattg cagcagacgg 180
cgctccaaga ggaccaggag aatatcaacc cgaaaaggc agcgcggcgc caacaaccgc 240
ggaccgggc cgcgctggcg gtactgaagt ccgggaaccc gcgggtcta gcgcagcagc 300
agaggccgaa gacgagacgg gttgcacccc ttaaggatct tcctgtaaat gatgagcatg 360
tcaccgttcc tccttgaaa gcaaacagta aacagcctgc gttcaccatt catgtggatg 420
aagcagaaaa agaagctcag aagaagccag ctgaatctca aaaaatagag cgtgaagatg 480
ccctggcttt taattcagcc attagttac ctggacccag aaaaccattg gtcctcttg 540
attatccaat ggatggtagt ttgagtcac cacatactat ggacatgtca attgtttag 600
aagatgaaaa gccagttagt gttatgaag taccagacta ccatgaggat attcacacat 660
accttaggaa aatggaggaa aatgtaaac ctaaagtggg ttacatgaag aaacagccag 720
acatcactaa cagtagata gctatcctcg tggactggtt agttgaagta ggagaagaat 780
ataaaactaca gaatgagacc ctgcatttgg ctgtgaacta cattgatagg ttcctgtctt 840
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caaactgcaa agttgaaagt ttagcaatgt ttttggaga attaagttt atagatgctg 1140
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cacaacagtc aataagagaa aagtacaaaa attcaaagta tcatgggttt tctctcctca 1380
accaccaga gacactaaat ctgtaacaat gaaagactgc ctttgggtttc taagatgtaa 1440
atcactcaaa gtatatggtg tacagttttt aacttaggtt tttaattttt caatcatttc 1500
tgaatacaga agttgtggcc aagtacaaat tatggtatct attactttt aaatggttt 1560
aatttgtata tctttgtat atgtatctgt ctttagatatt tggctaattt taagtggttt 1620

tgttaaagta ttaatgatgc cagctgccg

1649

<210> 9
<211> 175
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 9
accacactcg gagtccaaacg gtctttctg cagaaaggag gacttcctt tcaggggtct 60
ttctggggct cttactataa aaggggacca actctccctt tgtcatatct tgtttctgat 120
gacaaaaaat aacacattgt taaaattgta aaataaaaac atgaaatata aatta 175

<210> 10
<211> 166
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 10
gttccgtc acattcatcc tttcttactg ggcactgatg ttgagagcat caggcagggt 60
ataatgttat gttgcagtaa caaacaccct caatatctca gtggcttaaa atgacaacga 120
tctttttttt gtttgggtt gtatgctcta tatcacccag ggatca 166

<210> 11
<211> 107
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 11
tgctctgccc cacatctgaa caagctaata agaaagcccg atgttcttcc ctttggtgcc 60
attgggaaat tcaaaccatg cacaactctg cctgtatgaa gggcgca 107

<210> 12
<211> 183
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 12
caacccttagc ccctctcctc ttcttcacga tgccattctg ccatttctgt tttgtggtag 60
acaggttggc ccaggcactc taaggcccag gctggcacag gttggcccag gcacttcaag 120
cctaagtcca tttacagttt ctattccatc tcttcctaaa gaagaggaga ggggctaagg 180
ttg 183

<210> 13
<211> 92
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 13
aaaccaaacgt ctttggtaa aattctattt cttttaatgt tttaaaatat ttgttagtcac 60
taattgtaag tcataattcct ctttgtccag ct 92

<210> 14
<211> 182
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 14
gatgttaatta aagctgtaga tgagggctat cgactgccac cccccatgga ctgcccagct 60
gccttgatcc agctgatgct ggactgctgg cagaaagaca ggaacaacag acccaagttt 120
gagcagattt ttagtattct ggacaagctt atccgaaatc ccggcagcct gaaggatcat 180
ca 182

<210> 15
<211> 174
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 15
gccaaatggg tagcattgtt gctcgccctt ctagtctgcc agtaggaaag tccaaaccatt 60
aggtcgggga agaagggtct ggatttggtt gacaatggtt ggatggggga tagaagcaga 120
gagagagagg gagggcagct caagggtatc ttgccccact ctgttatgc tgat 174

<210> 16
<211> 132
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 16
cacctaacaa tatataatt ttttaaaaat ggaatttctt atgcccttatttattgga 60
catgtatgtc cataatggga gacgtttctt ttggactgtat gcttgaatca gtgggtgctt 120
ggcattgctg at 132

<210> 17
<211> 135
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 17
cagacacaca catgcacacc attctagaat gcttccttaa aagaaggagg gttgccctag 60
tctcaaaatc ttaaaagcca tatgtgcatt gatttctgca caggtaggca atttgtgatt 120
ttatTTTCC ttatg 135

<210> 18
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 18
cttcatggca ggactcggtt tggg

24

<210> 19
<211> 471

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 19

gccccaaatgc caggcgtca ctgatctcat gtctgtgtca ctggAACCAA caggcctgcc 60
tcaaccactg tccacctgca catctgagag gctggcaggt caccaggcgt agccgtgcac 120
gtcagttcct gggaaAGAAAG tagaatgtga atcatcttct ctcAAACGCC tatcaAAAGC 180
ccagctgaga tcaataattt ggtgggagaa cagacctgta ccaattggct cggtgttgg 240
tgggttattg taaatttggta tcctaaatca aagggtatcc cttagaggac ccacatggaa 300
tggcctcctc ctaaacatcc ctccatgttg gtacttcctg actctttcc agcaatctca 360
aagcacaaga agcagtggtg ggaACCCAGG cctggcatct tgTTGGAGCC catggttggg 420
ggtaggagc aactttacag gccatcaatt atgcccstat acgcacctcc c 471

<210> 20

<211> 209

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 20

gccctttata aatacgatta gtatggagaa ttgatacatt aacagttac tttataaattt 60
gacagatttc taaaattaacc tatggtccac aaatcaagtt ctatcactat ttcctgccac 120
caaaatcagt gatgaagcct ctcccacact aaatgaagag tggcgaggga cagaattcca 180
cttgtcttcc ttttgctgca ctaactaca 209

<210> 21

<211> 407

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 21

caagcagcat agcctctctg aaactcaatt tcctcacatt tataaatgag cttttatatt 60

atttacaaac ctacccata gagcaggttg caggctacat gagaagggtgc aagttcaatg 120

ccaagcaggg tccttagtatt taataaaagc tcaataaataa ttcattttct tctttcccttc 180
tcttacttga agtataaacat ttgataatga attttctcat tgcaacaata acaccccttc 240
cactgaggga tttgtatccc tgcttaagaa gctattagta ttctacagca ggactcaccc 300
cacacaatct tggcaggaat acatccctct acctctctgg tcaataacct gcctggcctg 360
tgacccccagg cttcctggag aagcaccaag tcctcccaagt ttcccc 407

<210> 22
<211> 267
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 22
cattggtgca gcaggtttag atggctatgt gctagagtat tgctttgaag gaagtaagta 60
caaccagtag ataaaatgaa tactgtcatc aataggtgag atatgtccct cccctttctg 120
ttgtctctct ttcttgagaa cgcatcacct tcctacgaaa ataagatcaa gccaaacgtc 180
atccttctga gatgtatata aactaagccc ttttttagta ctggtgctt ataaaattgat 240
atctcaaaag tatcttggct aggctgc 267

<210> 23
<211> 333
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 23
catagtccag gagcagagtt agccagaatt gcctcctgct gccccagctt agagagctcc 60
catctcaatc attgagcctg aaggcttcaa gccaaaaatg caacaagacc cccagcctac 120
atttctcagc tccccctggag ccagtgatcc tgtaacgctg ctggagggtca gtctgagcta 180
ccaagactgt cccttagacaa aggtggaggt cccccacact gccaagacca aatccctcac 240
tcaacccgtct gaggtgttgg atggggaaac aagaggcaaa actgaggcac ctgatgcatt 300
cagccctgct tgtgcagaag tgcattgact gcc 333

<210> 24

<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 24
cctgtggcgt aaggcatccc a 21

<210> 25
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 25
gcaagcactc ctttgtaaaa tgtcc 25

<210> 26
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 26
tgcgttcacc attcatgtgg atgaaqcag 29

<210> 27
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 27
ctcctacttc aactaaccag tccacgag 28

<210> 28
<211> 25
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 28
gatgc~~ttt~~ga agttatctct cttgg

25

<210> 29
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 29
atc~~agtgt~~gg cagatataat ggacc

25

<210> 30
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 30
gccccaaat~~g~~ ccaggctgca ctgat

25

<210> 31
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 31
gccagaagac aagagtgtga gcctt

25

<210> 32
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 32
gcttc~~cagg~~gt ggtccaatt~~a~~ gagtt

25

<210> 33
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 33
tccaacaacg acacattcag gagtt 25

<210> 34
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 34
ggacacagag taagataccc actga 25

<210> 35
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 35
cctcggtctt tggtctttgc atatc 25

<210> 36
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 36
acaaggaaag tgtccctatc tctga 25

<210> 37
<211> 25
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 37

ctcgaggct cccactgaag tgctc

25

<210> 38

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 38

cactgcacat taagatggag cccga

25

<210> 39

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 39

cctgtagaag ttctgctgcg tgtgg

25

<210> 40

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 40

cgagctgcct gacggccagg tcatac

25

<210> 41

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 41
gaagcatttg cgggtggacga tggag 25

<210> 42
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 42
tagaagacca aatgccccga gt 22

<210> 43
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 43
tgtatttctg tgggatcggt gg 22

<210> 44
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 44
cccttttat agtaagagcc ccaga 25

<210> 45
<211> 369
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 45
ccataagaga aatgatttgtt aggtttgcattt gaaatttaa aatttcctgtt ggcgtt 60
atcccataaac gaagccaaaa ggtgagtgtt agactggag aaataactgc cagacgttgc 120

cagacaaaga tttcatattt ctaatatgct agagtacctt taatttgata agaaaaagat 180
aagcaatcct gtaataaaaat ggacatttta caaaggagtg cttgcaaatg gccagtgaat 240
ttatgcaa atgttcaggg aaataggaat gaaaacgaga ttccacttt tcacatcca 300
tttgattggc aagaaatttt taaaagagta ataccttagt aatcactcat gtaggaaaat 360
gggttggtg 369

<210> 46
<211> 301
<212> DNA
<213> Artificial Sequence

<220>
<221> modified_base
<222> (212)
<223> n = A, C, G or T

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 46
gcccttgaag agtgtaacca agaagcatct ctcaatcaat gaacctgaga cagcctgttc 60
acttctgacc atcattcttg tccttttagat ctcagttca aattcatttc ttctagacat 120
tcatctcttc ccatgtttaa tctggaacca tctacccttc caccagacca attatcctgg 180
caaattaatg taatagacca gtattaatta tntggttgta tgtcttaaca acattctagg 240
tgctgtgcca aaaacaaatg aatagcaaca caaggtcttc ttggttcacac tcttcaaggg 300
c 301

<210> 47
<211> 3061
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (15) .. (1172)

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 47
cggtctccct caac atg aga gct gca ccc ctc ctc ctg gcc agg gca gca 50
Met Arg Ala Ala Pro Leu Leu Leu Ala Arg Ala Ala
1 5 10

agc ctt agc ctt ggc ttc ttg ttt ctg ctt ttt ttc tgg cta gac cga		98	
Ser Leu Ser Leu Gly Phe Leu Phe Leu Phe Phe Trp Leu Asp Arg			
15	20	25	
agt gta cta gcc aag gag ttg aag ttt gtg act ttg gtg ttt cg ^g cat		146	
Ser Val Leu Ala Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His			
30	35	40	
gga gac cga agt ccc att gac acc ttt ccc act gac ccc ata aag gaa		194	
Gly Asp Arg Ser Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu			
45	50	55	60
tcc tca tgg cca caa gga ttt ggc caa ctc acc cag ctg ggc atg gag		242	
Ser Ser Trp Pro Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu			
65	70	75	
cag cat tat gaa ctt gga gag tat ata aga aag aga tat aga aaa ttc		290	
Gln His Tyr Glu Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe			
80	85	90	
ttg aat gag tcc tat aaa cat gaa cag gtt tat att cga agc aca gac		338	
Leu Asn Glu Ser Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp			
95	100	105	
gtt gac cgg act ttg atg agt gct atg aca aac ctg gca gcc ctg ttt		386	
Val Asp Arg Thr Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe			
110	115	120	
ccc cca gaa ggt gtc agc atc tgg aat cct atc cta ctc tgg cag ccc		434	
Pro Pro Glu Gly Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro			
125	130	135	140
atc ccg gtg cac aca gtt cct ctt tct gaa gat cag ttg cta tac ctg		482	
Ile Pro Val His Thr Val Pro Leu Ser Glu Asp Gln Leu Leu Tyr Leu			
145	150	155	
cct ttc agg aac tgc cct cgt ttt caa gaa ctt gag agt gag act ttg		530	
Pro Phe Arg Asn Cys Pro Arg Phe Gln Glu Leu Glu Ser Glu Thr Leu			
160	165	170	
aaa tca gag gaa ttc cag aag agg ctg cac cct tat aag gat ttt ata		578	
Lys Ser Glu Glu Phe Gln Lys Arg Leu His Pro Tyr Lys Asp Phe Ile			
175	180	185	
gct acc ttg gga aaa ctt tca gga tta cat ggc cag gac ctt ttt gga		626	
Ala Thr Leu Gly Lys Leu Ser Gly Leu His Gly Gln Asp Leu Phe Gly			
190	195	200	
att tgg agt aaa gtc tac gac cct tta tat tgt gag agt gtt cac aat		674	
Ile Trp Ser Lys Val Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn			
205	210	215	220
ttc act tta ccc tcc tgg gcc act gag gac acc atg act aag ttg aga		722	
Phe Thr Leu Pro Ser Trp Ala Thr Glu Asp Thr Met Thr Lys Leu Arg			
225	230	235	

gaa ttg tca gaa ttg tcc ctc ctg tcc ctc tat gga att cac aag cag	770
Glu Leu Ser Glu Leu Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gln	
240	245
250	
aaa gag aaa tct agg ctc caa ggg ggt gtc ctg gtc aat gaa atc ctc	818
Lys Glu Lys Ser Arg Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu	
255	260
265	
aat cac atg aag aga gca act cag ata cca agc tac aaa aaa ctt atc	866
Asn His Met Lys Arg Ala Thr Gln Ile Pro Ser Tyr Lys Lys Leu Ile	
270	275
280	
atg tat tct gcg cat gac act act gtg agt ggc cta cag atg gcg cta	914
Met Tyr Ser Ala His Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu	
285	290
295	300
gat gtt tac aac gga ctc ctt cct ccc tat gct tct tgc cac ttg acg	962
Asp Val Tyr Asn Gly Leu Leu Pro Pro Tyr Ala Ser Cys His Leu Thr	
305	310
315	
gaa ttg tac ttt gag aag ggg gag tac ttt gtg gag atg tac tat cgg	1010
Glu Leu Tyr Phe Glu Lys Gly Glu Tyr Phe Val Glu Met Tyr Tyr Arg	
320	325
330	
aat gag acg cag cac gag ccg tat ccc ctc atg cta cct ggc tgc agc	1058
Asn Glu Thr Gln His Glu Pro Tyr Pro Leu Met Leu Pro Gly Cys Ser	
335	340
345	
cct agc tgt cct ctg gag agg ttt gct gag ctg gtt ggc cct gtg atc	1106
Pro Ser Cys Pro Leu Glu Arg Phe Ala Glu Leu Val Gly Pro Val Ile	
350	355
360	
cct caa gac tgg tcc acg gag tgt atg acc aca aac agc cat caa ggt	1154
Pro Gln Asp Trp Ser Thr Glu Cys Met Thr Thr Asn Ser His Gln Gly	
365	370
375	380
act gag gac agt aca gat tagtgtgrac agagatctct gtagaaagag	1202
Thr Glu Asp Ser Thr Asp	
385	
tagctgccct ttctcaggc agatgatgct ttgagaacat actttggcca ttaccccca	1262
gctttgagga aaatggcctt tggatgatta ttttatgttt tagggacccc caacctcagg	1322
caattcctac ctcttcacct gaccctgccc ccacttgcca taaaacttag ctaagtttg	1382
ttttgttttt cagcgtaat gtaaaggggc agcagtgcc aataataatc agagataaag	1442
cttaggtcaa agttcataga gttcccatga actatatgac tggccacaca ggatctttg	1502
tatthaagga ttctgagatt ttgcttgagc aggatttagat aagtctgttc tttaaatttc	1562
tgaaatggaa cagattcaa aaaaaattcc cacaatctag ggtggaaaca aggaaggaaa	1622
gatgtgaata ggctgatggg gaaaaaacca atttacccat cagttccagc cttctctcaa	1682
ggagaggcaa agaaaggaga tacagtggaa acatctggaa agtttctcc actggaaaac	1742

tgctactatc tgttttata tttctgttaa aatatatgag gctacagaac taaaaattaa 1802
aacctcttg tgtcccttgg tcctggaaca tttatgtcc tttaaagaa aaaaaatca 1862
aactttacag aaagatttga tgtatgtaat acatatacg actcttgaag tatataatc 1922
atagcaaata agtcatctga tgagaacaag ctattggc acaacacatc aggaaagaga 1982
gcaccacgtg atggagttc tccagaagct ccagtgataa gagatgtga ctctaaagtt 2042
gatttaaggc caggcatggt gtttacgcc tataatccc gcattttggg actccgaggt 2102
gggcagatca cttgagctca ggagctcaag atcagcctgg gcaacatggt gaaaccttgt 2162
ctctacataa aataaaaaa cttagatgg catggtgctg tgtgcctata gtccactact 2222
tgtggggcta aggcatggg atcaactttag ccccgaggt cgaggctaca gtgacccaag 2282
agtgcactac tgtactccag ccagggcaag agagcgagac cctgtctcaa taaaataata 2342
aataaaataaa taaataaata aataaaaaca aagttgatta agaaaggaag tataggccag 2402
gcacagtggc tcacacctgt aatccttgc ttttggagg ctgaggcagg agatcactt 2462
taggcctggc gtgttcaaga ccagcctggc caacatagt agacactgtc tctacaaaa 2522
aaaggaagga agggacacat atcaaactga aacaaaatta gaaatgtat tatgttatgt 2582
tctaagtgcc tccaaattca aaacttattt gaatgtttag agtgtggta cgaataacgt 2642
taggaggaca aaaggaatgt gtaagtctt aatgccata tcttcagaaa acctaagcaa 2702
acttacaggt cctgctgaaa ctgcccactc tgcaagaaga aatcatgata tagtttcca 2762
tgtggcagat ctacatgtct agagaacact gtgctctatt accattatgg ataaagatga 2822
gatggtttct agagatggtt tctactggct gccagaatct agagcaaagc catccccct 2882
cctgggttggc cacagaatga ctgacaaaga catcgattga tatgcttctt tgtgttattt 2942
ccctcccaag taaatgttttgc ttcttggc cattttctat gcttgtact gtcttctagc 3002
agtgagccaa atgtaaaata gtgaaataag tcattattag gaagttcaaa aaaaaaaaaa 3061

<210> 48
<211> 386
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 48
Met Arg Ala Ala Pro Leu Leu Leu Ala Arg Ala Ala Ser Leu Ser Leu

1 5 10 15

Gly Phe Leu Phe Leu Leu Phe Phe Trp Leu Asp Arg Ser Val Leu Ala
20 25 30

Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Ser
35 40 45

Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu Ser Ser Trp Pro
50 55 60

Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu Gln His Tyr Glu
65 70 75 80

Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe Leu Asn Glu Ser
85 90 95

Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr
100 105 110

Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly
115 120 125

Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro Ile Pro Val His
130 135 140

Thr Val Pro Leu Ser Glu Asp Gln Leu Leu Tyr Leu Pro Phe Arg Asn
145 150 155 160

Cys Pro Arg Phe Gln Glu Leu Glu Ser Glu Thr Leu Lys Ser Glu Glu
165 170 175

Phe Gln Lys Arg Leu His Pro Tyr Lys Asp Phe Ile Ala Thr Leu Gly
180 185 190

Lys Leu Ser Gly Leu His Gly Gln Asp Leu Phe Gly Ile Trp Ser Lys
195 200 205

Val Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn Phe Thr Leu Pro
210 215 220

Ser Trp Ala Thr Glu Asp Thr Met Thr Lys Leu Arg Glu Leu Ser Glu
225 230 235 240

Leu Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gln Lys Glu Lys Ser
245 250 255

Arg Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu Asn His Met Lys
260 265 270

Arg Ala Thr Gln Ile Pro Ser Tyr Lys Lys Leu Ile Met Tyr Ser Ala
275 280 285

His Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu Asp Val Tyr Asn
290 295 300

Gly Leu Leu Pro Pro Tyr Ala Ser Cys His Leu Thr Glu Leu Tyr Phe

305 310 315 320

Glu Lys Gly Glu Tyr Phe Val Glu Met Tyr Tyr Arg Asn Glu Thr Gln
325 330 335

His Glu Pro Tyr Pro Leu Met Leu Pro Gly Cys Ser Pro Ser Cys Pro
340 345 350

Leu Glu Arg Phe Ala Glu Leu Val Gly Pro Val Ile Pro Gln Asp Trp
355 360 365

Ser Thr Glu Cys Met Thr Thr Asn Ser His Gln Gly Thr Glu Asp Ser
370 375 380

Thr Asp
385

<210> 49
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 49
tcgctccaca ttcatccttt ct

22

<210> 50
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 50
tgatccctgg gtgatataga gcata

25

<210> 51
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 51
gcccccacatc tgaacaagct aataa

25

<210> 52
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 52
tgccgccttc atacaggcag agttg 25

<210> 53
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 53
cacgatgcca ttctgccatt tctgt 25

<210> 54
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 54
ggaagagatg gaatagaaac tgtaa 25

<210> 55
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 55
cttaactcg gcatttggtc ttc 23

<210> 56
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 56
Arg Lys Lys Glu Lys Val Lys Arg Ser Gln Lys Ala Thr Glu Phe Ile
1 5 10 15
Asp Tyr Ser Ile Glu
20

<210> 57
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 57
cactggaacc aacaggcctg cctcaac 27

<210> 58
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 58
ccgagccaat tggtacaggt ctgttctccc 30

<210> 59
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 59
cctcaagact ggtccacgga gtgtatga 28

<210> 60
<211> 30
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 60
ggtaatggc caaagtatgt tctcaaagca

30

<210> 61
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 61
aaacaaaacgt ctttggtaa a

21

<210> 62
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 62
ctggacaaaag aggaatatga

20

<210> 63
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 63
gccctttata aatacgatta gtatggag

28

<210> 64
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 64
tgtatgtatgcagaaaaag gaaga

25

<210> 65
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 65
gatgttaattt aagctgtaga tgaggg 26

<210> 66
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 66
gaataactaac aatctgctca aacttgaaa 28

<210> 67
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 67
gcctaaatggg tagcattgtt gctcgaa 26

<210> 68
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 68
cagagtgggg caagataccca ttgag 25

<210> 69
<211> 21
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 69

aatggaaattt cttatgccct c

21

<210> 70

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 70

caatgccaag cacccactga ttc

23

<210> 71

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 71

acacagacac acacatgcac acca

24

<210> 72

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 72

cctacctgtg cagaatcaa

20

<210> 73

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 73
acgagcatag cctctctgaa actc

24

<210> 74
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 74
ccttctcatg tagcctgcaa cctgctc

27

<210> 75
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 75
cattggtgca gcaggtag atgg

24

<210> 76
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 76
gagatatcaa tttataagca ccaag

25

<210> 77
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 77
atctcaatca ttgaggctga agg

23

<210> 78
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 78
cagcaggttg agtgaggat ttgg 24

<210> 79
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 79
cgccctcaggc tggggcagca tt 22

<210> 80
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 80
acagtggaaag agtctcattc gagat 25

<210> 81
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 81
cgagctgcct gacggccagg tcatac 25

<210> 82
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer.

<400> 82
gaagcatttg cggtggacga tggag

25

<210> 83
<211> 2088
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (99)..(503)

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 83
gaccttaaat atatcgagg ggctaattga tgtataataa tttacaaaat tattcttcta 60

ttgctacaga gctacaattc aatttacagt aggccacc atg agg gcc ttc tta agg 116
Met Arg Ala Phe Leu Arg
1 5

aac cag aaa tat gag gat atg cac aat att att cac att tta cag atc 164
Asn Gln Lys Tyr Glu Asp Met His Asn Ile Ile His Ile Leu Gln Ile
10 15 20

aga aaa ttg agg cac aga tta agt aac ttc cca agg cta cca ggc att 212
Arg Lys Leu Arg His Arg Leu Ser Asn Phe Pro Arg Leu Pro Gly Ile
25 30 35

cta gct cca gaa act gtg ctc tta cca ttc tgc tac aag gta ttt rga 260
Leu Ala Pro Glu Thr Val Leu Leu Pro Phe Cys Tyr Lys Val Phe Arg
40 45 50

aaa aaa gaa aaa gta aaa aga agt caa aag gca aca gag ttc att gat 308
Lys Lys Glu Lys Val Lys Arg Ser Gln Lys Ala Thr Glu Phe Ile Asp
55 60 65 70

tat tcc ata gaa cag tca cac cat gca att ctc aca ccc ttg cag aca 356
Tyr Ser Ile Glu Gln Ser His His Ala Ile Leu Thr Pro Leu Gln Thr
75 80 85

cac ttg acc atg aaa ggt tcc tca atg aaa tgt tcc tca tta tct tca 404
His Leu Thr Met Lys Gly Ser Ser Met Lys Cys Ser Ser Leu Ser Ser
90 95 100

gaa gcc ata tta ttc aca ttg act ttg cag tta act cag acc cta ggt 452
Glu Ala Ile Leu Phe Thr Leu Thr Leu Gln Leu Thr Gln Thr Leu Gly
105 110 115

ctg gaa tgc tgt ctt ctc tac tta tcc aaa act ata cat cca cag atc 500

Leu Glu Cys Cys Leu Leu Tyr Leu Ser Lys Thr Ile His Pro Gln Ile
120 125 130

ata taaaactctca gccctgctgc aaagccttc cagaaaaata aaaatggttg 553
Ile
135

aaaaggcaat tctgctacca atgactgttt aagcccagcc aagtaactga accattccaa 613
cttcaattta cttatgaaaa gaatttgatg atgttaggagg ttatttcaat tctaaaatac 673
aaacccatgt tgatcttct caatcttcaa ctcatagatt attatctatt atctcaattt 733
agtttgttat ttatcctagt gggcattaa aaactaccac atgtgtttct gtctctccat 793
tagtcaataa ctaaactaac gagcaattag taagccatgt gccagatgtc ccgctaggca 853
ccagagggat aaaaacaata cttatagttt accactaatt ttcgcttagt aactagtgaa 913
atgttcaagt catgcctgag tcaagagttt aggagacatt acaatgtgt aatggaaacca 973
aggaaagtga aactttggat aagtggggac tagtgttattt atatatttaa ttgatttctg 1033
actctatcat tggcctccaa acacagattt tggtttctt tggtttgtt ttcttcacta 1093
tgggatcttc tgtgcccagc acagtgcctg acacatagaa aacaatcaat atttgctgaa 1153
taaatgatta aaaaatcaga gaactttccc attctgtttt gatctataga acatccagag 1213
taagtgtatga gggcctctgc atttatatgc gcttaaattt agattatgtg agaaaagttt 1273
aaagacactt agtagagtga ttttggaaata tagtaaacac ttggaaatgg tggtgcttta 1333
aaaagatatt aatagataat atgaaaatct ccatctcaaa aataatgcat aaactattta 1393
aaggaaaatc acatctccag gctttcaatg tttgttcatt actttttcat atattttac 1453
catctgctga aggcagtcattt atcaaagggtt aaagaaaagat gggagggaaa ctcagtaaga 1513
attatatttag tctgtttgca aagtagaaaa agattctcat cactcaacct tatgagcagg 1573
aagagggaaag gctgtttgag aaccatttac ttagcagaac cacatatttt agacacttcc 1633
ctgcatttaac tgcacaaaaca atatgtttgc aaacttggtrr gatcaacctc caacaacgac 1693
acattcagga gttaaatatttttcatcaaa cattggattt ttccttaacg ctagagattt 1753
ctacaaatct tctgaagggtt ctcaatggct tcaggctaag aagagatttcc tccctgttat 1813
aagcagcaag acaaatttgc catttcactc tcaaacttca ctaatgtca cattttcc 1873
aaaaggaact ctagaagacc aaatgccccg agttaagaac atcaaaaacta accatctgaa 1933
gaaacttccc aagtgttaga ctctgcctgc acgacaacac ataaaaaaaaag agagaagaat 1993
caaatacgaca caataaaaaaa tgataaaggg gatatcacca ccgatcccac agaaatacaa 2053

actaccatca gagaatacta caaacaccc tacgc

2088

<210> 84
<211> 135
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 84
Met Arg Ala Phe Leu Arg Asn Gln Lys Tyr Glu Asp Met His Asn Ile
1 5 10 15

Ile His Ile Leu Gln Ile Arg Lys Leu Arg His Arg Leu Ser Asn Phe
20 25 30

Pro Arg Leu Pro Gly Ile Leu Ala Pro Glu Thr Val Leu Leu Pro Phe
35 40 45

Cys Tyr Lys Val Phe Arg Lys Lys Glu Lys Val Lys Arg Ser Gln Lys
50 55 60

Ala Thr Glu Phe Ile Asp Tyr Ser Ile Glu Gln Ser His His Ala Ile
65 70 75 80

Leu Thr Pro Leu Gln Thr His Leu Thr Met Lys Gly Ser Ser Met Lys
85 90 95

Cys Ser Ser Leu Ser Ser Glu Ala Ile Leu Phe Thr Leu Thr Leu Gln
100 105 110

Leu Thr Gln Thr Leu Gly Leu Glu Cys Cys Leu Leu Tyr Leu Ser Lys
115 120 125

Thr Ile His Pro Gln Ile Ile
130 135

<210> 85
<211> 2506
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (99) .. (503)

<220>
<223> Description of Artificial Sequence: Synthetic Primer

<400> 85
gaccttaaat atatcgaggt ggcttaattga tgtataataa tttacaaaat tattcttcta 60

ttgctacaga gctacaattc aatttacagt aggccacc atg agg gcc ttc tta agg 116
Met Arg Ala Phe Leu Arg
1 5

aac cag aaa tat gag gat atg cac aat att att cac att tta cag atc 164
Asn Gln Lys Tyr Glu Asp Met His Asn Ile Ile His Ile Leu Gln Ile
10 15 20

aga aaa ttg agg cac aga tta agt aac ttc cca agg cta cca ggc att 212
Arg Lys Leu Arg His Arg Leu Ser Asn Phe Pro Arg Leu Pro Gly Ile
25 30 35

cta gct cca gaa act gtg ctc tta cca ttc tgc tac aag gta ttt cga 260
Leu Ala Pro Glu Thr Val Leu Leu Pro Phe Cys Tyr Lys Val Phe Arg
40 45 50

aaa aaa gaa aaa gta aaa aga agt caa aag gca aca gag ttc att gat 308
Lys Lys Glu Lys Val Lys Arg Ser Gln Lys Ala Thr Glu Phe Ile Asp
55 60 65 70

tat tcc ata gaa cag tca cac cat gca att ctc aca ccc ttg cag aca 356
Tyr Ser Ile Glu Gln Ser His His Ala Ile Leu Thr Pro Leu Gln Thr
75 80 85

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His Leu Thr Met Lys Gly Ser Ser Met Lys Cys Ser Ser Leu Ser Ser
90 95 100

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Glu Ala Ile Leu Phe Thr Leu Thr Leu Gln Leu Thr Gln Thr Leu Gly
105 110 115

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Ile
135

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<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Peptide

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20 25 30

Pro Arg Leu Pro Gly Ile Leu Ala Pro Glu Thr Val Leu Leu Pro Phe
35 40 45

Cys Tyr Lys Val Phe Arg Lys Lys Glu Lys Val Lys Arg Ser Gln Lys
50 55 60

Ala Thr Glu Phe Ile Asp Tyr Ser Ile Glu Gln Ser His His Ala Ile
65 70 75 80

Leu Thr Pro Leu Gln Thr His Leu Thr Met Lys Gly Ser Ser Met Lys
85 90 95

Cys Ser Ser Leu Ser Ser Glu Ala Ile Leu Phe Thr Leu Thr Leu Gln
100 105 110

Leu Thr Gln Thr Leu Gly Leu Glu Cys Cys Leu Leu Tyr Leu Ser Lys
115 120 125

Thr Ile His Pro Gln Ile Ile
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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic Primer

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<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Peptide

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Gly Leu Glu Cys Cys Leu

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